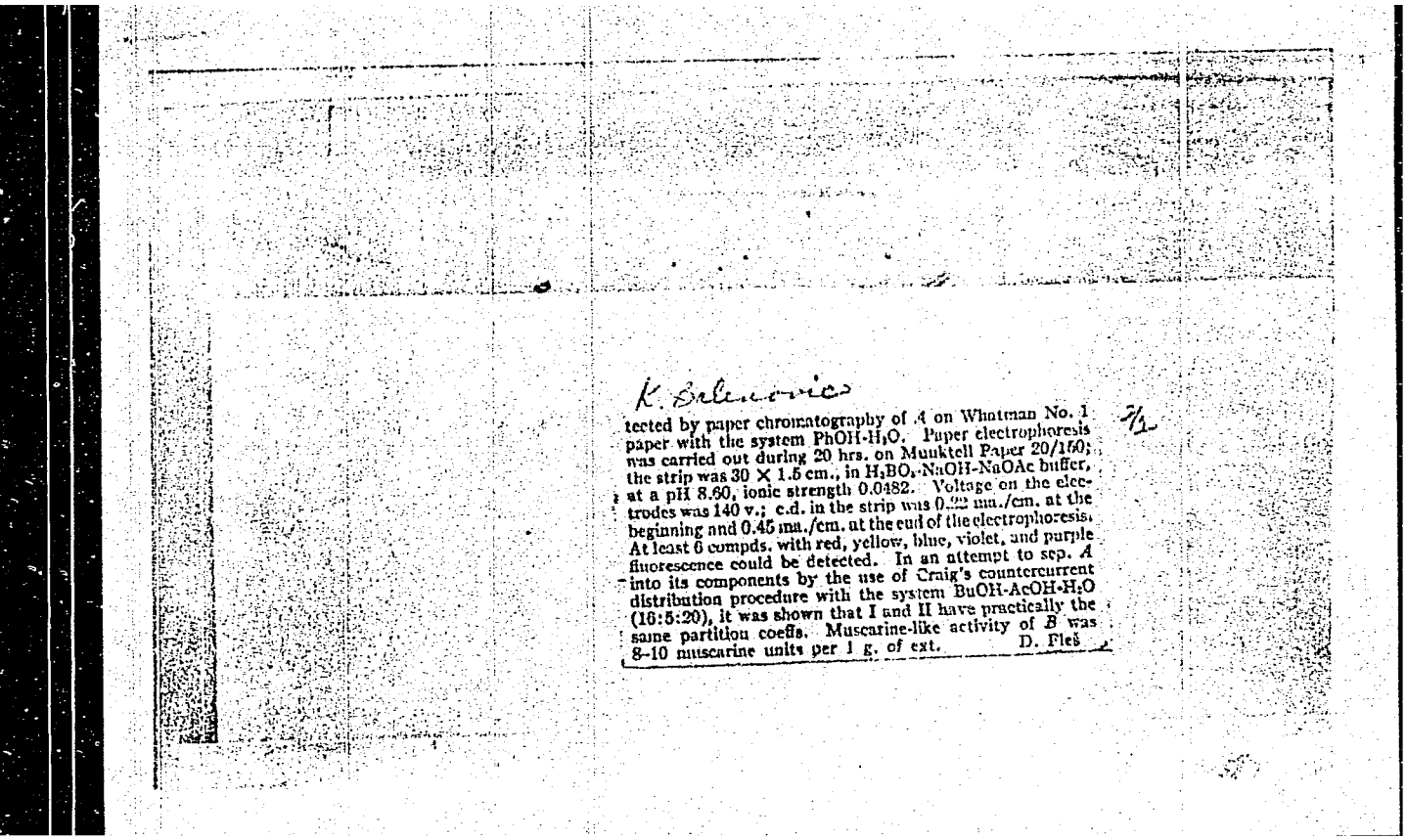
CERAR, D.

(3)

The chemistry of higher fungi. III. Contribution to the chemistry of the genus Russula. K. Balenović, D. Cerar, Z. Pučar, and V. Škarić (Univ. Zagreb, Yugoslavia). *Arhiv kem.* 27, 16–20(1955)(in English); cf. *Arhiv kem.* 26, 233(1954).—Interest in the study of chemistry of *Russula* arises from the fact that it has not been studied for half a century with newer chem. techniques. Fresh fruit bodies of *Russula emetica* (30.2 kg.) were peeled and the red peelings (5.6 kg.) extd. twice with 2 parts of 96% EtOH at 0–10°. EtOH was evapd. *in vacuo*, the residue extd. with Et_2O, and the aq. soln. yielded on further evapn. 140 g. of mannitol (I). The dark-red sirupy residue was evapd. to dryness (ext. *A*). The peeled fungi (30.5 kg.) were treated in the same manner, and 452 g. of I and 333 g. of the EtOH ext. (*B*) were obtained. *A* (8 g.) dissolved in 150 ml. H_2O was passed through a column of cellulose powder (17 × 2 cm.; 10 g., Whatman, standard grade, B quality), washed with H_2O, eluted with 5% AcOH, eluent evapd. *in vacuo* to give a dark-red, semicryst. solid, refered to as russularhodin (II). II (200 mg.) was obtained from the peelings of 38 kg. of fresh fungi. II was sol. in H_2O and AcOH, sparingly sol. in EtOH and other org. solvents, did not react with a 1% soln. of $FeCl_3$ in MeOH nor with ninhydrin, gave an orange fluorescence when adsorbed on cellulose at pH 7, but the fluorescence disappeared on elution with 5% AcOH. II was discolored in a short time when treated with H (Zn + HCl) at room temp. II (5 mg.) was hydrolyzed with *N* HCl (1 ml.) for 12 hrs. but yielded no product with a pos. test on amino acids or carbohydrates. At least 6 fluorescent components having R_f between 0.52 and 0.70 could be de-



K. Schmeis

tected by paper chromatography of *A* on Whatman No. 1 paper with the system PhOH-H_2O. Paper electrophoresis was carried out during 20 hrs. on Munktell Paper 20/160; the strip was 30 × 1.5 cm., in H_3BO_3-NaOH-NaOAc buffer, at a pH 8.60, ionic strength 0.0482. Voltage on the electrodes was 140 v.; c.d. in the strip was 0.22 ma./cm. at the beginning and 0.45 ma./cm. at the end of the electrophoresis. At least 6 compds. with red, yellow, blue, violet, and purple fluorescence could be detected. In an attempt to sep. *A* into its components by the use of Craig's countercurrent distribution procedure with the system BuOH-AcOH-H_2O (16:5:20), it was shown that I and II have practically the same partition coeffs. Muscarine-like activity of *B* was 8-10 muscarine units per 1 g. of ext. D. Fleš

CERAR, D.

The muscarine series. III. Isolation of quaternary bases from Amanita muscaria. K. Balcłović, D. Cerar, B. Gašpert, and T. Galijan (Univ. Zagreb, Yugoslavia). *Arhiv kem.* 27, 107–16 (1955)(in English); cf. preceding abstr.—With regard to the still unknown structure of muscarine (I), a description of isolation and purification of I is given. Fresh fly mushrooms (1136 kg.) was homogenized with an equal amt. of EtOH, stored for a week at −5°, EtOH was added with stirring (total EtOH 2450 l.), the liquid decanted, the residue pressed out, and the combined aq. EtOH exts. evapd. *in vacuo* to 53 l. (61% of dry residue). The concentrate was poured into 102 l. of abs. EtOH, left at 0° for 24 hrs., the liquid was removed and evapd. *in vacuo* to a concentrate containing 31–33% of dry residue. The concentrate was extd. with 5 l. of Et_2O, the aq. layer (38 l.) was poured into 60 l. of abs. EtOH and left at −5° overnight. The liquid was removed, evapd. to a vol. of 13.6 l., extd. with four 4 l.-portions of Et_2O, the ext. was washed with 1 l. of H_2O, and the aq. layers were combined (13.1 l., ext. *a*). To ext. *a* (12 l.) a 3% NH_4 reineckate soln. (20 l.) was added, left overnight at 0°, the ppt. was filtered off, and dried *in vacuo* yielding 750 g. of reineckates (II). By the use of the Craig countercurrent distribution method with the system Me_2CO–EtOAc–Et_2O–H_2O (1:1:1:2), it was impossible to sep. I from choline (III) in the form of reineckate. II (60 g.) was dissolved in 1 l. of Me_2CO, dild. with 200 ml. of H_2O, treated with 10 g. of Ag_2SO_4 dissolved in 2.5 l. of H_2O (cf. *C.A.* 25, 127), and left at 0° overnight; the ppt. was removed, and the liquid treated with a soln. of 11.79 g. of $BaCl_2.2H_2O$ in 1.15 l. of H_2O. $BaSO_4$ was removed, and the liquid evapd. *in vacuo* in a N atm. The residue was dissolved in abs. EtOH, filtered and evapd. *in vacuo* to give 13.3 g. of crude I chloride, with an activity of 30,000 Muscarine units per g. Chromatography of I chloride on Whatman No. 1 paper with the system BuOH–H_2O–C_5H_5N (6:3:2) (solvent *A*) gave six spots with Levine-Chargaff reagent (cf. *C.A.* 46, 2118*g*) for R_f 0.02, 0.09, 0.14 (due to III), 0.18, 0.24, and 0.31. The muscarine activity was found between R_f 0.19–0.29. 5 g. of crude I chloride was dissolved in 50 ml. of solvent *A*, and chromatographed on 500 g. of Whatman cellulose powder (B quality, standard grade); 300 fractions of 10 ml. were collected. I chloride was distributed between fractions 121–164 (490 mg.). Chromatographic sepn. on cellulose was also performed in the system BuOH–NH_3 (4 parts of BuOH satd. with 1 part of 1.5*N* NH_3) (solvent *B*). I chloride was found between fractions 140–194 (220 mg. from 2.5 g. of crude I chloride). I chloride fractions were converted to chloraurate (cf. King, *C.A.* 16, 4185), pale yellow leaflets, m. 111–12°. I chloride prepared from chloraurate following Dudley (cf. *C.A.* 24, 1083), had an R_f 0.255 ± 0.005 at 20° in solvent *A*. The chromatographed fractions of I chloride (500 mg.), were fractionated on 100 g. of cellulose in solvent *B*; fractions 1.5 ml. in 20 minutes. Fractions 60–80 showed one spot on the paper with R_f 0.23, due to pure I chloride; chloraurate, m. 117.5–18°. An attempted sepn. of crude I chloride using countercurrent distribution method with the solvent *B*, and cation exchangers (Amberlite IRC-50 and Ionac C-109) failed to separate I from III. D. Fleš

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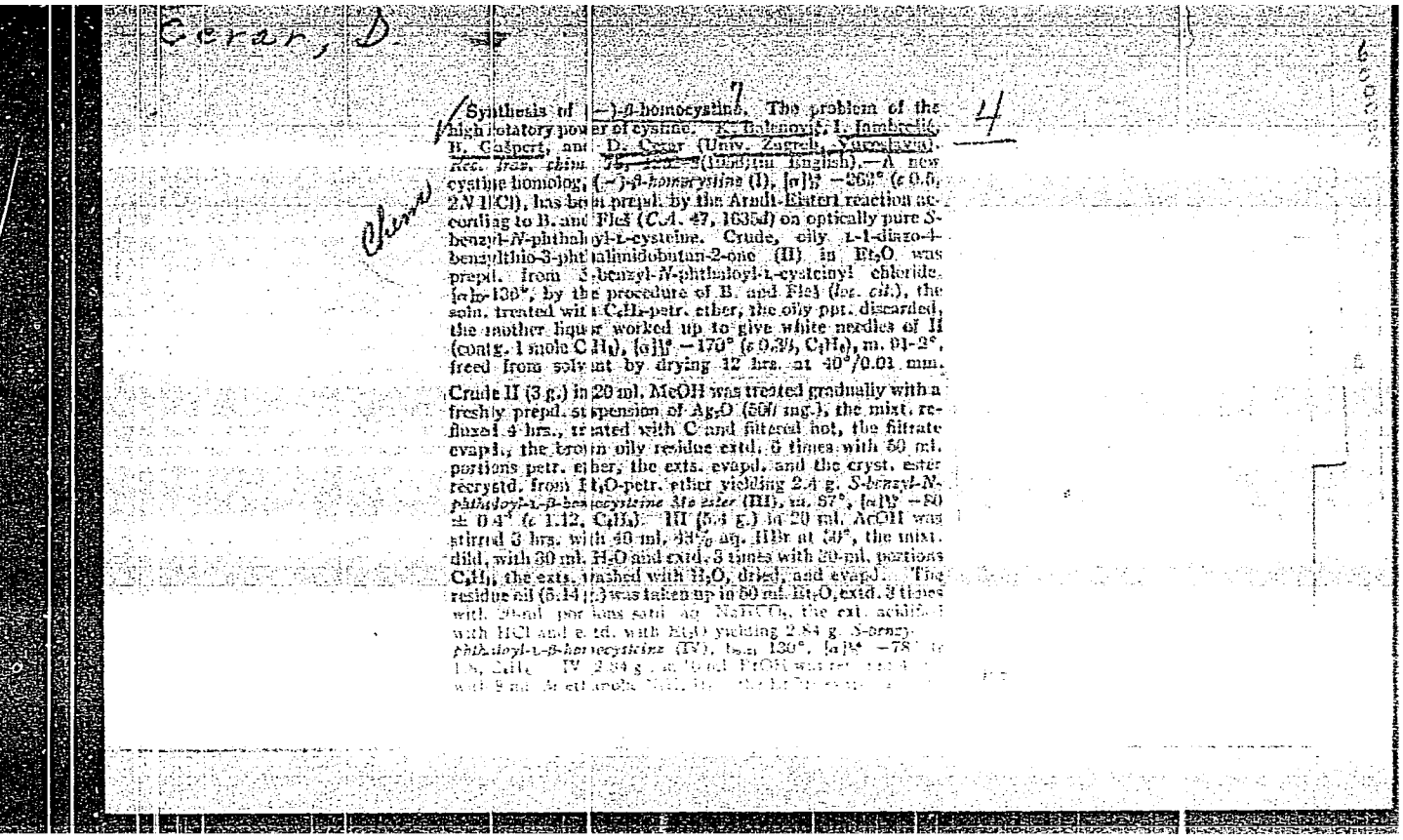
CERAR D.

Configuration of (+)-γ-aminovaleric acid—Conversion of l-alanine into its vinylog. K. Balenović and D. Cerar (Univ. Zagreb, Yugoslavia). *J. Chem. Soc.* 1955, [631-2.—The configuration of L-α-phthalimidopropaldehyde (I) was proved by treating 1 g. of I in Me_2CO with chromic acid reagent at room temp. for 1 hr. to yield 1.1 g. *N*-phthaloyl-l-alanine, m. 150°, $[\alpha]_D^{25}$ −10.5° (*c* 2, EtOH). I (2 g.) and 2 g. $CH_2(CO_2H)_2$ were heated 8 hrs. at 70–5° in 5 g. C_5H_5N and the cooled mixt. left overnight at 0° at pH 6 to give 85% pure (+)-*4-phthalimido-2-pentenoic acid* (II), m. 163°, $[\alpha]_D^{25}$ 10.5° (*c* 1.13 EtOH). II (3 g.) in EtOH was hydrogenated 5 hrs. over PtO_2 to give 2.9 g. (+)-γ-*phthalimidovaleric acid* (III), m. 146°, $[\alpha]_D^{25}$ 37.5° (c 0.3, EtOH). III (2.5 g.) was refluxed 7 hrs. with AcOH and 8 cc. 47% HI and the mixt. left overnight at 0°, the pptd. phthalic acid removed, and the residue obtained by concn. of the filtrate was passed through Amberlite IR-4B to give 1 g. (+)-γ-aminovaleric acid (IV), m. 202°, purification yielded 0.8 g. pure IV, m. 208°, $[\alpha]_D^{25}$ 13.9° (*c* 0.8, H_2O). II (4.2 g.) in EtOH and 37.6 cc. *M* $N_2H_4.H_2O$ in EtOH was stirred 2 weeks at 45° to give 2.1 g. of the phthaloylhydrazine and the filtrate yielded 0.23 g. (−)-*4-aminopent-2-enoic acid* (V), m. 198°, $[\alpha]_D^{25}$ −4.8° (*c* 1.03, H_2O). An aq. soln. of V gave a strong reaction with ninhydrin. V (80 mg.) was reduced with PtO_2 in 10% aq. HOAc to give 90 mg. partly racemized IV, $[\alpha]_D^{25}$ 4.7° (*c* 1.76, H_2O). Thus IV was related to the L-amino-acid series. B. K. Wasson



Cerar, D.

Synthesis of (−)-β-homocystine. The problem of the high rotatory power of cystine. K. Balenović, I. Jambrečić, B. Gašpert, and D. Cerar (Univ. Zagreb, Yugoslavia). *Rec. trav. chim.* 76, 1057–9 (1957) (in English).—A new cystine homolog, (−)-β-*homocystine* (I), $[\alpha]_D^{25}$ −262° (*c* 0.6, 2 *N* HCl), has been prepd. by the Arndt-Eistert reaction according to B. and Flek (*C.A.* 47, 1635*d*) on optically pure *S*-benzyl-*N*-phthaloyl-L-cysteine. Crude, oily L-1-diazo-4-benzylthio-3-phthalimidobutan-2-one (II) in Et_2O was prepd. from *S*-benzyl-*N*-phthaloyl-L-cysteinyl chloride, [α]D 130°, by the procedure of B. and Flek (*loc. cit.*), the soln. treated with C_6H_6-petr. ether, the oily ppt. discarded, the mother liquor worked up to give white needles of II (contg. 1 mole C_6H_6), $[\alpha]_D^{25}$ −170° (*c* 0.3, C_5H_5N), m. 91–2°, freed from solvent by drying 12 hrs. at 40°/0.01 mm.

Crude II (3 g.) in 20 ml. MeOH was treated gradually with a freshly prepd. suspension of Ag_2O (50% mg.), the mixt. refluxed 4 hrs., treated with C and filtered hot, the filtrate evapd., the brown oily residue extd. 6 times with 50 ml. portions petr. ether, the exts. evapd. and the cryst. ester recrystd. from Et_2O-petr. ether yielding 2.4 g. *S-benzyl-N-phthaloyl-L-β-homocystine Me ester* (III), m. 57°, $[\alpha]_D^{25}$ −80 ± 0.4° (*c* 1.12, C_6H_6). III (5.4 g.) in 20 ml. AcOH was stirred 3 hrs. with 40 ml. 33% aq. HBr at 30°, the mixt. dild. with 30 ml. H_2O and extd. 3 times with 20-ml. portions C_6H_6, the exts. washed with H_2O, dried, and evapd. The residue oil (5.14 g.) was taken up in 50 ml. Et_2O, extd. 3 times with 20-ml. portions satd. aq. $NaHCO_3$, the ext. acidified with HCl and extd. with Et_2O yielding 2.84 g. *S-benzyl-phthaloyl-L-β-homocystine* (IV), [α]D 130°, $[\alpha]_D^{25}$ −78° (*c* 1.8, C_5H_5N). IV (2.84 g.) in 50 ml. EtOH was [illegible] with 8 ml. 5 *N* ethanolic NaOH, the [illegible]

Palenovic, K.; Jambrešić, I.

residue heated briefly at 50° with 30 ml. 5% HCl, the cooled soln. filtered from 1.23 g. phthalylhydrazide and the filtrate evapd. *in vacuo* yielding 2.01 g. crude *S*-benzyl-*β*-homocysteine·HCl, $[\alpha]_D$ −59° (in *N* HCl). The crude product taken up in 8.6 ml. H_2O, the soln. filtered at 30 ml. per hr. through a 30 cm. (2 cm. diam.) Amberlite IR-45 (OH form) column, the column washed with 8 vol. H_2O, the eluate evapd. *in vacuo* yielding 1.04 g. product, crystd. from 1:2 aq. alc. to give *S*-benzyl-L-*β*-homocysteine (V, m. 183° (decomp.), $[\alpha]_D^{25}$ −57 ± 2° (*c* 1.19, *N* HCl), violet spot on paper, R_f 0.53 (paper chromatogram with 10:3:8 BuOH-AcOH-H_2O at 10°), whereas S-benzyl-L-cysteine has R_f 0.81 under the same conditions. V (1.8 g.) in 60 ml. liquid NH_3 was treated with a slight excess of Na (0.46 g.) (cf. du Vigneaud and Patterson, *C.A.* 29, 4332g) to permanent blue coloration, 0.3 g. NH_4Cl added and the NH_3 evapd. spontaneously, the residue taken up in 20 ml. H_2O, 0.1 g. $FeCl_3 \cdot 6H_2O$ added, air passed through to neg. nitroprusside test for SH and filtered from $Fe(OH)_3$. The clear filtrate was neutralized to litmus with HCl, evapd. and the residue (3.6 g.) taken up in 1000 ml. H_2O, filtered at 300 ml. per hr. through a 70-cm. (2.2-cm. diam.) column of Amberlite IR-120 (H form, 30–50 mesh) and washed with 700 ml. H_2O to neg. Cl^- reaction. The column was eluted with 150-ml. portions of 1% aq. pyridine, the 1st 5 fractions yielding 2.0 g. crude homocysteine $[\alpha]_D$ −205° (2*N* HCl). The crude was recrystd. from 1.5 aq. EtOH and 30 ml. EtOH was added to the mother liquors producing I, m. 185° (decomp.), $[\alpha]_D$ −265 ± 2° (*c* 1.16, H_2O), $[\alpha]_D^{25}$ −158 ± 3° (*c* 0.5, 2*N* NaOH), R_f 0.48 (PrOH-H_2O at 10°, ninhydrin developer). I (0.4 g.) in 5 ml. H_2O was stirred 16 hrs. at room temp. with 0.8 g. $NaHCO_3$ and 4 ml. 3% $2,4\text{-}(O_2N)_2C_6H_3F$ (cf. Porter and Sanger, *C.A.* 42, 6920i), the mixt. extd. with Et_2O, the remaining aq. layer acidified with concd. HCl, the sepd.

Bolerović K.; Jovanović I...

crude taken up in 1 ml. Me_2CO and treated with 3 ml. EtOH, the mixt. filtered and cooled to 0°, and the ppt. washed with cold EtOH, yielding *N,N'*-bis(dinitrophenyl)-L-β-homocystine, m. 191–2° (decompn.). The higher rotatory power of [in comparison to that of cystine, $[\alpha]_D$ −214°, is extremely ly. in H_2O and weak tendency to crystn. Support Fregda's proposition (F. and Pettersson, *C.A.* 46, 2085d) that the vicinity of the S-S bond to the center of asymmetry is responsible for the high rotatory power of cystine. Since the value of specific rotation in the visible is largely detd. by electronic transitions associated with absorption bands in the near violet, weak absorption bands in this region are especially significant. Cyclic or acyclic S-S compds. have weak absorption bands with max. 2500–3500 A. (ε 200–400). Cystine has a inflection at 2400 A. (ε 300, 0.1 *N* acid) and 2190 A. (ε 340, 0.1 alkali), whereas cystine and methionine show negligible absorption above 2500 A. C. R. A. 3/3

(+)-β-Aminobutyric acid. Correlation of its configuration with that of α-amino acids. [illegible] and D. Cetar (Kemijski Inst. [illegible]). [illegible]

[illegible]

... at room temp. overnight with 15 cc. $SOCl_2$ yielded 1.9 g. acid chloride (X), m. 92° (from C_6H_6-ligroine), $[\alpha]_D^{20}$ 65° (c 0.43, C_6H_6). X (4.6 g.) in 20 cc. xylene reduced with Pd-$BaCO_3$ at 110-15° so that 0.7 mole H was taken up during 5 hrs. gave 1.8 g. III, sublimed at 110°/0.016 mm. or crystd. m. 113° (from C_6H_6-ligroine), $[\alpha]_D^{20}$ 65° [illegible] (0.8 g.) [illegible]

CERBA, A.

2

CZECHOSLOVAKIA

MINARIK, L; STEKLACOVA, E; CERBA, A.

1. Hospital for Tuberculosis (Liecebna pre tuberkulozu), Vysna Haga; 2. Institute of National Health (Ustav narodneho zdravia), Revucej - (for all)

Prague, Rozhledy v tuberkulose, No 2, 1963, pp 77-86

" The Pathology and Clinical Course of Cystoid Cavities."

Z/006/60/000/041/005/006
E073/E535

AUTHOR: Čerbačeská, Marta, Engineer

TITLE: Defectoscope with a Monitor

PERIODICAL: Technické noviny, 1960, No.41, p.7

TEXT: The ultrasonic pulse defectoscope invented by Jaroslav Obrazec has been supplemented with an additional attachment, a so-called monitor, which in addition to giving a light or an acoustic signal concerning detected defects, will also distinguish erroneous setting of the depth or the length of the section to be investigated. Therefore, it is very suitable for manual or automatic control of large series of products of equal geometrical shape. After initial setting by qualified personnel, mass inspection can be effected by an operative with some training. The monitor also enables determination from any part of the path of the ultrasonics, so that it is very suitable for checking objects submerged in various liquids. The output signals can be continuously recorded and used for controlling, sorting, marking or other equipment. In the case of using the monitor, the normal pulses from the defectoscope are superimposed on a rectangular pulse, the duration of which corresponds to the length of the section to be investigated. The

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Defectoscope with a Monitor

resulting pulse is fed to indicator equipment which is set for a certain threshold voltage. For exciting the auxiliary rectangular pulse, a further rectangular excitation pulse is used, the duration of which determines the beginning of the auxiliary rectangular pulse. If the material has no defects, or if these are smaller than the preset value of the reflected pulse, the sorting or signalling equipment will not respond. If this is not the case, an indication will be given and the equipment will commence to function. The monitor can be used everywhere where an ordinary ultrasonic defectoscope is applied, the function of which is automated, speeded up and the errors caused by operatives eliminated. It enables scrapping faulty pieces during production, so that, particularly in the case of large forgings, a considerable amount of useless machining can be avoided. The functioning of the prototype was tested in the Výzkumný ústav tepelné techniky (Thermo - Technics Research Institute). The monitor will be manufactured by Chirana, Works Chotutice, Near Peček. Due to the small capacity of this plant, the beginning of series manufacture is continuously delayed. There is 1 figure.

Card 2/2

CERBAN,M. ; POPESCU, I.

General criteria for the evaluation of the economic efficiency of investments. p. 314.

REVISTA CONSTRUCTIILOR SI A MATERIALELOR DE CONSTRUCTII. (Asociatia Stiintifica a Inginerilor si Technicienilor din Rominia si Ministerul Constructilor si al Mareruialelor di Constructii) Bucuresti, Rumania. Vol. 10, no. 6, June 1958.

Monthly List of East European Accessions (EEAI) LC, Vol. 8, no. 6, June 1959

Uncl.

DIMITRIU, Ofelia; BONCIU, C.; CERBU, Al.; VASILESCO, Th.

Research on urinary eliminators in human brucellosis. Arch. Roum. path. exp. microbiol. 20 no.1:21-31 Mr '61.

1. Travail de l'Institut "Dr. I. Cantacuzino" - Service des Zoonoses.

(BRUCELLOSIS urine)

DIMITRIU, Ofelia; CERBU, Al.; VASILESCO, Th.

Antibiotic sensitivity of certain Brucella strains. I. Arch. Roum. path. exp. microbiol. 20 no.3:425-430 S '61.

1. Travail de l'Institut "Dr. I. Cantacuzino" Service des Zoonoses.
(BRUCELLA pharmacology) (ANTIBIOTICS pharmacology)

CIUCA, M.; DIMITRIU, Ofelia; CERBU, Al.; POP, Alexandrina

Relation between the lysogenicity and virulence of Brucella strains. Arch. roum. path. exp. microbiol. 21 no.2:252-254 '62.

1. Travail de l'Institut "D.I. Cantacuzino" —Centre National de Bacteriophages-References.

(BRUCELLA) (BACTERIOPHAGE)

POP, Al, dr.; DIMITRIU, Ofelia, dr.; VASILESCU,T., dr.; CERBU, Al.,dr.; POP, Alexandrina, biolog.

Brucellosis as a factor in occupational morbidity in veterinary physicians and technicians. Microbiologia (Bucur) 8 no.5:423-431 S-O'63

1. Lucrare efectuata in Institutul "Dr.I.Cantacuzino", Bucuresti.

DIMITRIU, Ofelia; VASILESCO, Th; CERBU, Al.; POP, Alexandrina; BONCIU,C.; PETROVICI, Monica

Comparative study of some vaccines in experimental brucellosis. Arch. roum. path. exp. microbiol. 23 no.3:661-666 S'63

1. Service des Zoonoses, Laboratoire de la Brucellose (for Dimitriu, Vasilesco, cerbu, Pop). 2. Service d'Anatomie Pathologique (for Bonciu, Petrovici). Travail de l'Institut "Dr. I. Cantacuzino", Bucarest.

CERBU, F., ing.

Study and testing of a more rational transportation of yarn boxes from the ring frames to the packing department. Ind text Rum 15 no.10:541-544 O '64.

1. Rumanian Cotton Spinning Mill, Bucharest.

EXCERPTA MEDICA Sec.11 Vol.10/7 Oto-Rhino-Laryngo Jul57
CERBY E.

1348. ČERBÝ E. ORL Klin., Hradec Králové. *Naše zkušenosti s akrylátovymi odlitky při plastikách nosu a čela. Experiences with acrylate casts in plastic operations on the nose and forehead ČSL. STOMATOL. 1956, 3 (114-118) Illus. 5

The experiences are recounted of 4.5 yr. use of acrylate casts in plastic operations of saddle-shaped noses and of 2 yr. experience in the plastic repair of post-operative hollows of the forehead. Out of 10 plastic nasal operations in one case the cast was extruded after 4.5 yr. In plastic repairs of the forehead the casts are well maintained and it may be assumed that their use for this purpose will prove valuable as it is a region only slightly exposed to pressure, pull and tension by the surrounding tissues. The cosmetic results are in all cases very good. (IX, 11)

YUGOSLAVIA/Nuclear Physics - Nuclear Power and Technology C-8

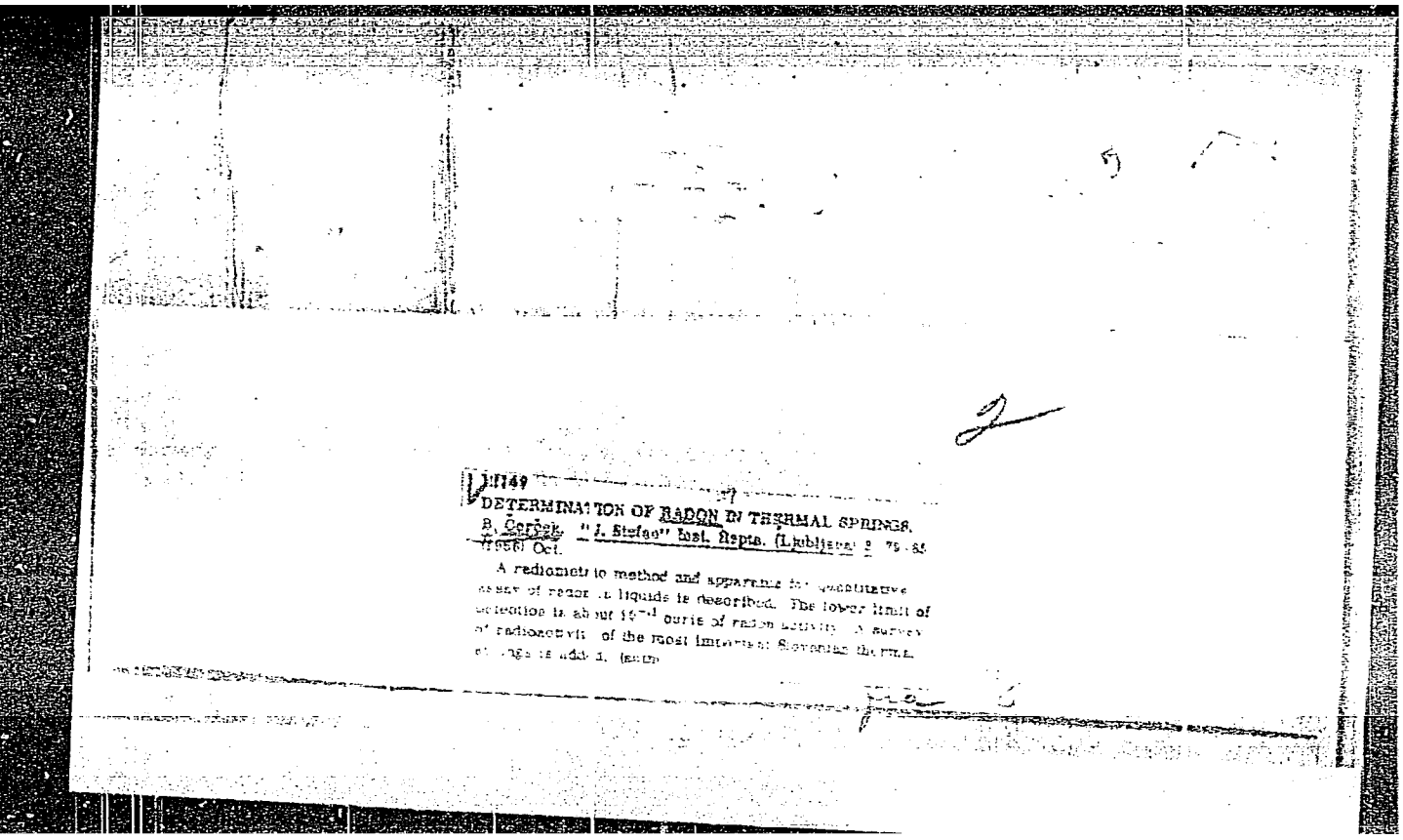
Abs Jour : Ref Zhur - Fizika, No 12, 1958, No 27088

Author : Corcok B.
Inst : Not Given
Title : Neutron Poisons in the Homogeneous Reactor.

Orig Pub : Repts. "J. Stefan" Inst., 1956, 3, 45-53

Abstract : The authors calculate the concentrations of neutron absorbers with large cross sections for thermal neutrons, poisoning by non-volatile fission products, and control of the reactivity with the aid of Cd^{113} in the case of prolonged operation of the reactor at a constant neutron flux and constant fuel concentration (U^{235}). The latter assumption (operation at a flux of 10^{12} neutrons/cm^2-sec for one thousand days at a concentration of 20 grams U^{235}/kg of D_2O gives a burn-up of 5% fuel). Limits the accuracy of the calculations of $\pm$ 10%. However, the value of fission-product poisoning, equivalent to 0.11 grams of B^{10}/kg of U^{235} at a burn-up coefficient of 5%, is in good agreement with other data.

Card : 1/1



11749

DETERMINATION OF RADON IN THERMAL SPRINGS.

B. Cerček. "J. Stefan" Inst. Repts. (Ljubljana) 2 75-85 (1958) Oct.

A radiometric method and apparatus for quantitative assay of radon in liquids is described. The lower limit of detection is about 10^{-11} curie of radon activity. A survey of radioactivity of the most important Slovenian thermal springs is added. (auth)

HRIBAR, M.; CERCEK, Boris, ing. (Ljubljana)

Radioactive isotopes are used in the Mezica Mine for controlling the heavy liquid separation. Tehnika Jug 17 no.1:24p Ja '62.

1. Asistent Nuklearnog instituta "Jozef Stefan" Ljubljana i clan Redakcicnog odbora "Radioaktivni izotopi i zracenja" (for Cercek).

(Radioisotopes)

GERCEK, B.

The radiation chemistry of deaerated aqueous vinylpyridine sulphate - ferric sulphate solutions. Croat chem acta 35 no.2: 109-116 '63.

1. Department of Radiation Chemistry, Institute "Jozef Stefan", Ljubljana, Slovenia, Yugoslavia.

CERCEK, B.

Reactions of the radical in sulfuric acid solutions; abstract.
Glas Hem dr 27 no.9/10:543-544 '64

1. The Jozef Stefan Institute, Ljubljana.

CERCHEZ, G.

A new Soviet tractor for pulling out and hauling wood. p. 391.
REVISTA PADURILOR. (Asociatia Stinifica a Inginerilor si Technicienilor din Rominia si al Ministerului Agriculturii si Silviculturii) Bucuresti. Vol 70 (i.ei 71) no. 6, June 1956.

SOURCE: East European Accessions List. (EEAL) Library of Congress, Vol. 5, No. 11, November, 1956.

CERCHEZ, Mihu, prof. inv. mediu (Bucuresti)

Some elementary problems of economic mathematics. Gaz mat fiz 14 no.2: 81-95 F'62

CERCHEZ, Mihu

An application of combinative analysis. Gaz mat B 15 no.4:152-153 Ap '64.

LATCU, D., prof. (Hunedoara); PETRESCU, N., prof. (Tg. Carbunesti); CERCHEZ, Mihu; ZENEMBISI, I., prof. (P. Neamt); TEODORESCU, Voltaire (P. Neamt); IONESCU-TIU, C.; TOMESCU, Ion (Bucaresti); DUMITREASA, Gh. (P.Neamt); MIHAILESCU, D., prof. (Pitesti); DUMITRU, Acu (Cluj); LEONTE, Alexandru (Bucaresti); ANGHELACHE, Tudorica (Bucaresti); POPA, Al. (Pucioasa); BRINZANESCU, V. (Bucaresti); LUSTIG, Gh. (Bucaresti); ISAC, E. (Tg. Jiu); LEVIN, Alexandru (Tallin, U.S.S.R.); SIMION, A. (Bacau); AVADANEI, Cornelia (P. Neamt); SIMIONESCU, Gh.D.; FLONDOR, Elena, (Bucuresti)

Proposed problems in mathematics. Gaz. mat B 15 no.4:172-177 Ap '64.

CERCHEZ, Mihu, conf.

A problem of transport distribution. Gas mat B 15 no.5: 200-204 May '64.

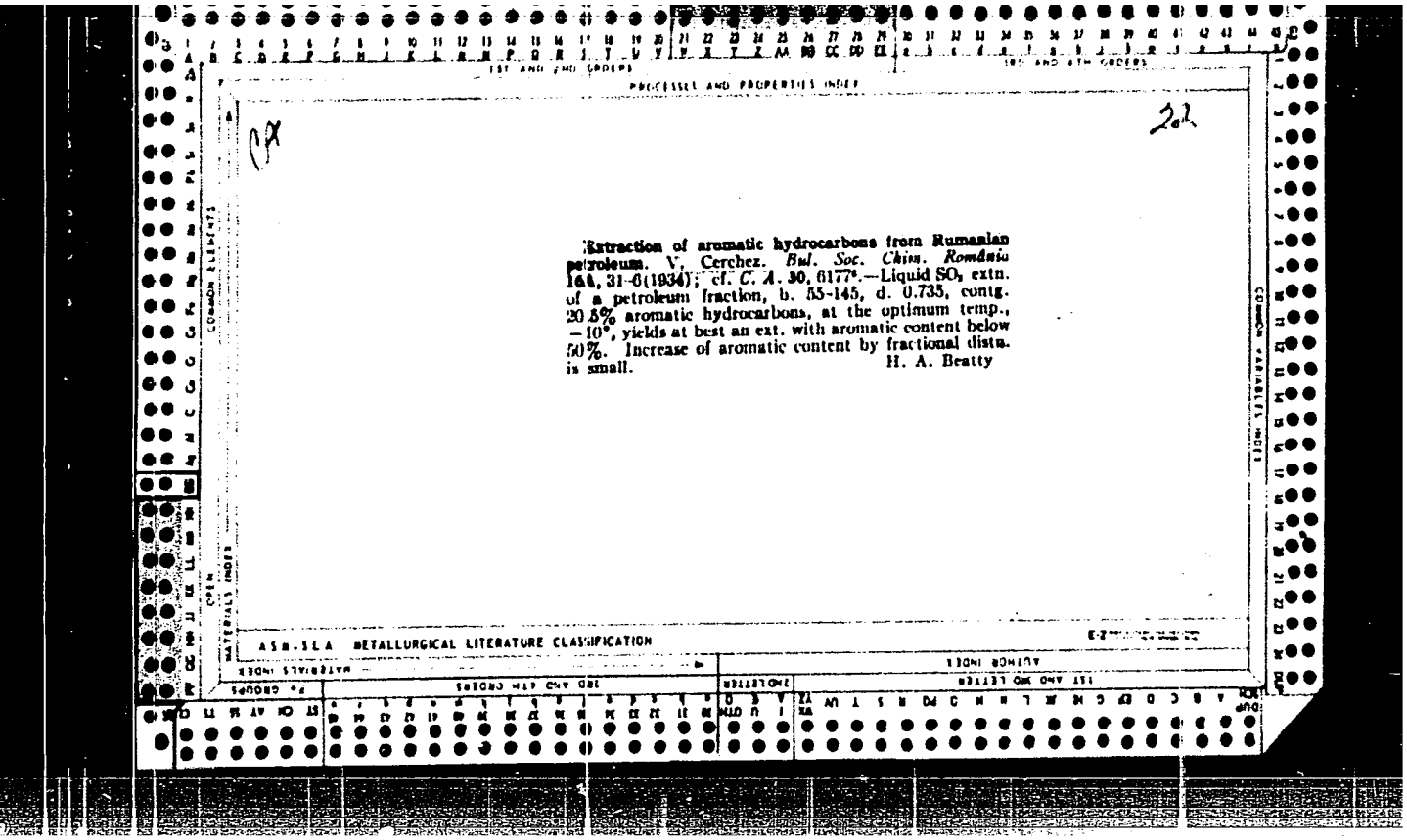
CERCHEZ, N.; MIRZA, V., acad.; CARAUSU, D., prof.

Influence of heredity of tomato hybrid descendants, at the age of interbreeding, on the reproductive elements. Studii biol agr Iasi 14 no.2:287-298 '63.

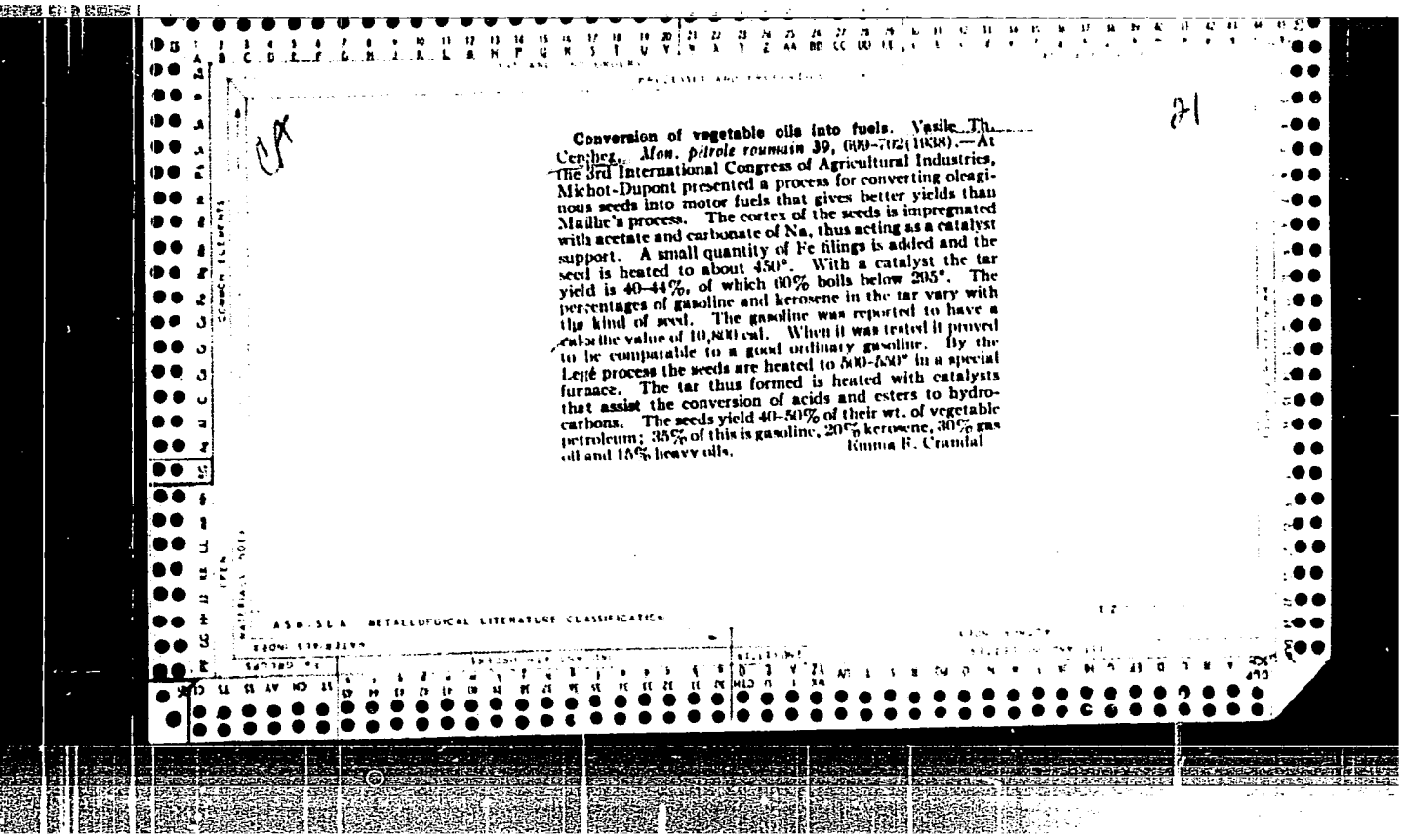
1. The work was carried out in the framework of the "Al.I.Cuza" University.

CERCHEZ, V., dr.; BRUDA, N., ing.; IORDACHE, Gh., ing.

Improving the quality of oils by means of additives. Petrol si gaze 14 no.1:37-45 Ja '63.

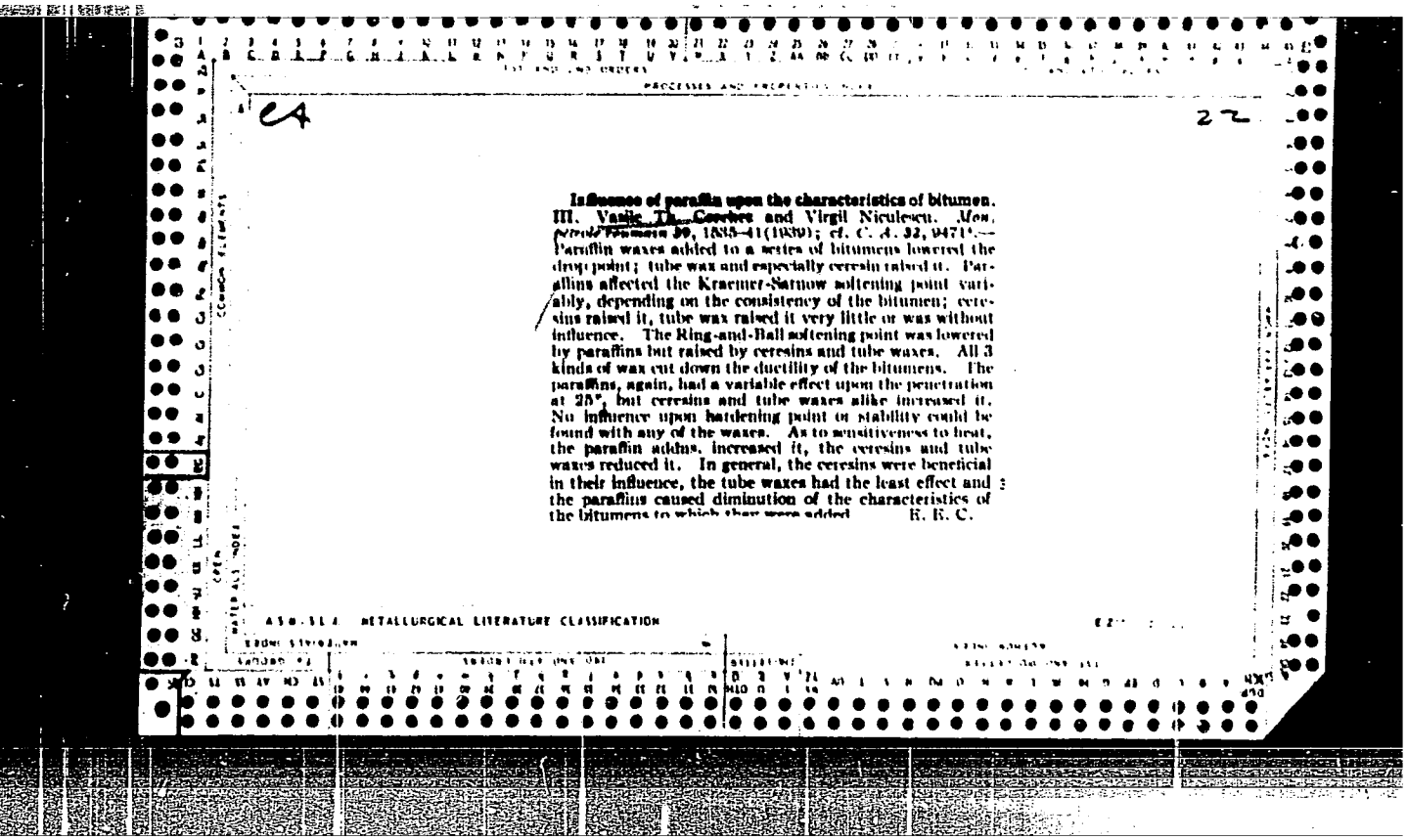


Extraction of aromatic hydrocarbons from Rumanian petroleum. V. Cerchez. *Bul. Soc. Chim. Romania* 16A, 31–6(1934); cf. *C. A.* 30, 6177⁸.—Liquid SO_2 extn. of a petroleum fraction, b. 55–145, d. 0.735, contg. 20.5% aromatic hydrocarbons, at the optimum temp., −10°, yields at best an ext. with aromatic content below 50%. Increase of aromatic content by fractional distn. is small.
H. A. Beatty



Conversion of vegetable oils into fuels. Vasile Th. Cerchez. *Mon. pétrole roumain* **39**, 689–702(1938).—At the 3rd International Congress of Agricultural Industries, Michot-Dupont presented a process for converting oleaginous seeds into motor fuels that gives better yields than Maillie's process. The cortex of the seeds is impregnated with acetate and carbonate of Na, thus acting as a catalyst support. A small quantity of Fe filings is added and the seed is heated to about 450°. With a catalyst the tar yield is 40–44%, of which 60% boils below 205°. The percentages of gasoline and kerosene in the tar vary with the kind of seed. The gasoline was reported to have a calorific value of 10,880 cal. When it was tested it proved to be comparable to a good ordinary gasoline. By the Lejé process the seeds are heated to 500–550° in a special furnace. The tar thus formed is heated with catalysts that assist the conversion of acids and esters to hydrocarbons. The seeds yield 40–50% of their wt. of vegetable petroleum; 35% of this is gasoline, 20% kerosene, 30% gas oil and 15% heavy oils.

Emma F. Crandal

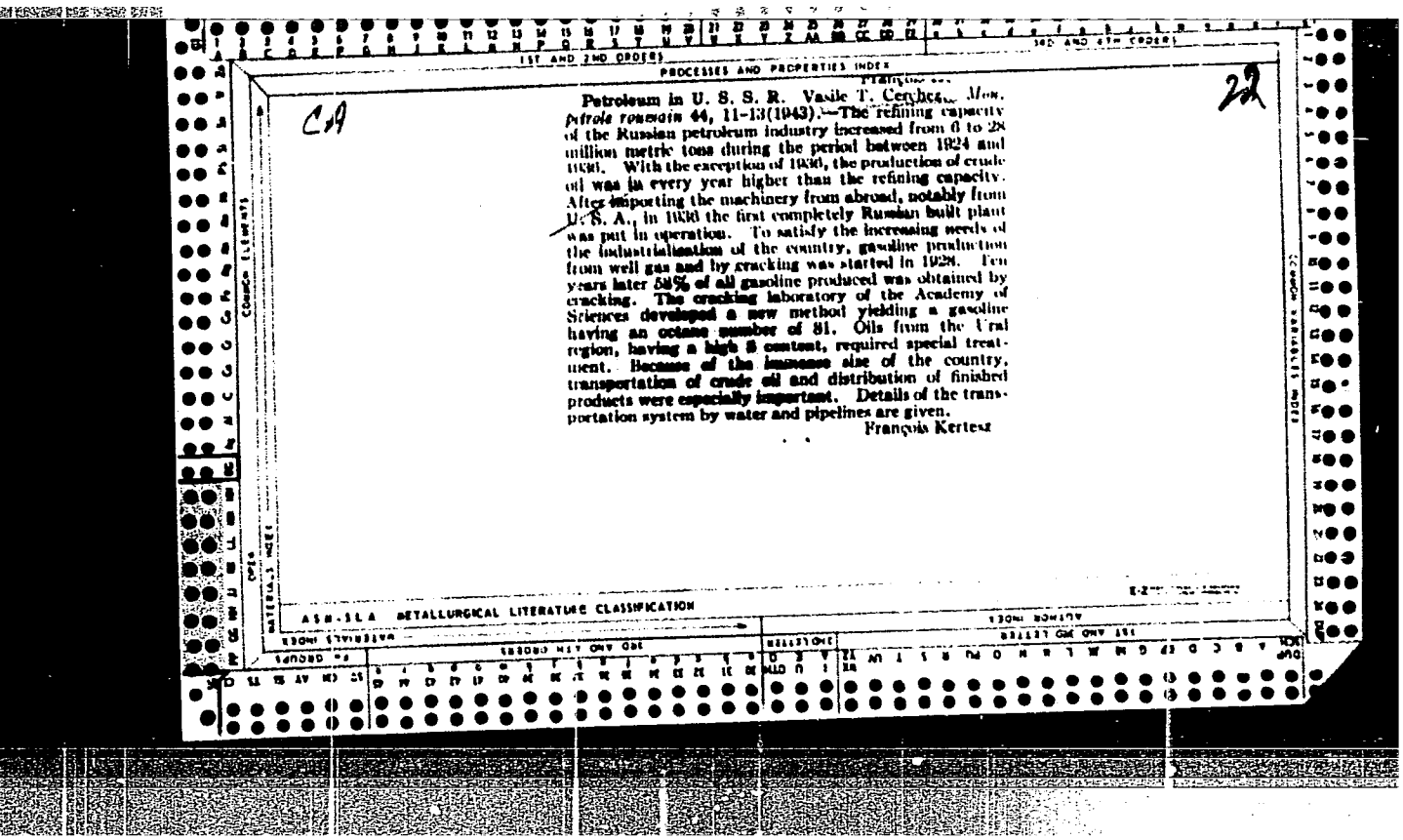


C4

22

Influence of paraffin upon the characteristics of bitumen. III. Vasile Th. Cocolea and Virgil Niculescu. *Mon. Petrol. Romanesc* **30**, 1855–41 (1939); cf. *C. A.* **32**, 9471.—Paraffin waxes added to a series of bitumens lowered the drop point; tube wax and especially ceresin raised it. Paraffins affected the Kraemer-Sarnow softening point variably, depending on the consistency of the bitumen; ceresins raised it, tube wax raised it very little or was without influence. The Ring-and-Ball softening point was lowered by paraffins but raised by ceresins and tube waxes. All 3 kinds of wax cut down the ductility of the bitumens. The paraffins, again, had a variable effect upon the penetration at 25°, but ceresins and tube waxes alike increased it. No influence upon hardening point or stability could be found with any of the waxes. As to sensitiveness to heat, the paraffin addns. increased it, the ceresins and tube waxes reduced it. In general, the ceresins were beneficial in their influence, the tube waxes had the least effect and the paraffins caused diminution of the characteristics of the bitumens to which they were added. E. E. C.

A58-114 METALLURGICAL LITERATURE CLASSIFICATION



PROCESSES AND PROPERTIES INDEX

CA

22

Petroleum in U. S. S. R. Vasile T. Cerchez. *Mon. petrole roumain* **44**, 11-13(1943).—The refining capacity of the Russian petroleum industry increased from 6 to 28 million metric tons during the period between 1924 and 1938. With the exception of 1930, the production of crude oil was in every year higher than the refining capacity. After importing the machinery from abroad, notably from U. S. A., in 1930 the first completely Russian built plant was put in operation. To satisfy the increasing needs of the industrialization of the country, gasoline production from well gas and by cracking was started in 1928. Ten years later 58% of all gasoline produced was obtained by cracking. The cracking laboratory of the Academy of Sciences developed a new method yielding a gasoline having an octane number of 81. Oils from the Ural region, having a high S content, required special treatment. Because of the immense size of the country, transportation of crude oil and distribution of finished products were especially important. Details of the transportation system by water and pipelines are given.

François Kertesz

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

CERCHEZ, V. FA 21T25

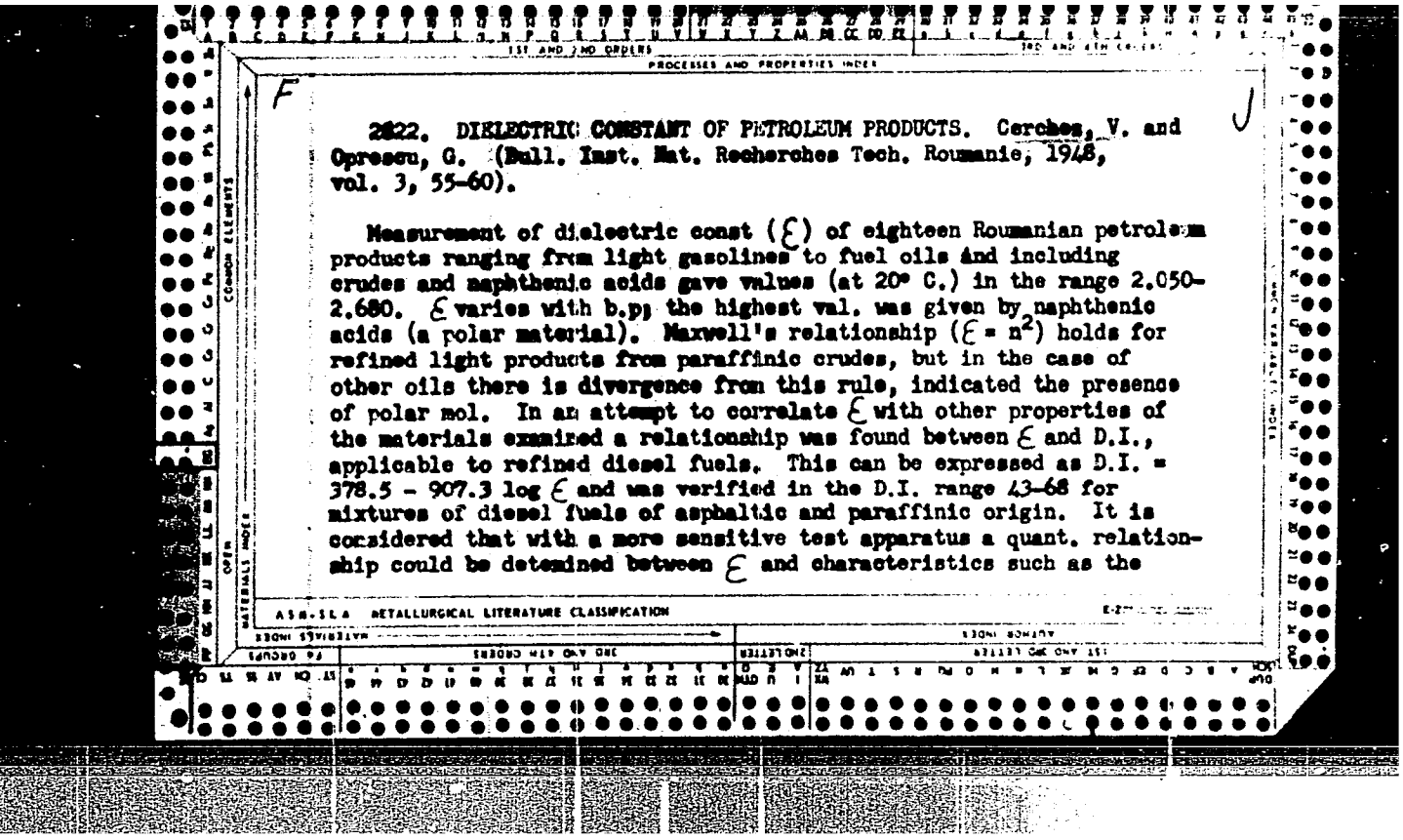
RUMANIA/Engineering Jan/Feb 1947
Petroleum Industry
Petroleum - Distillation

"Elements of Calculations for Installations in the Petroleum Industry," V. Cerchez and R.Tunescu, 8 pp

"Monitorul Petrolului Roman" Vol XLVIII, No 1/2

Eleven tables and extensive formulae used in heat exchanging and vapor heat exchanging; condensing and distilling, etc.

21T25

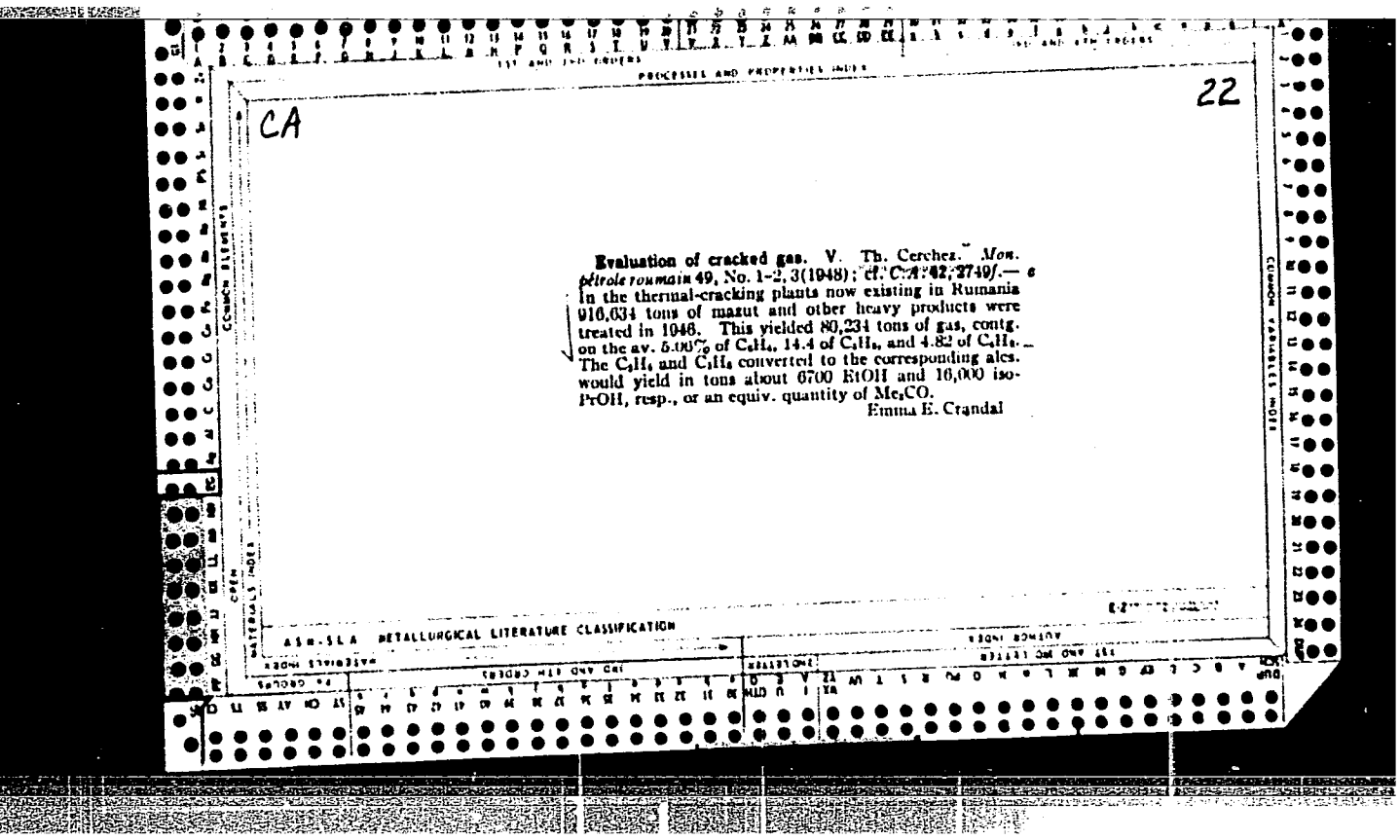


F

2822. DIELECTRIC CONSTANT OF PETROLEUM PRODUCTS. Cerchez, V. and Oprescu, G. (Bull. Inst. Mat. Recherches Tech. Roumanie, 1948, vol. 3, 55-60).

J

Measurement of dielectric const ($\mathcal{E}$) of eighteen Roumanian petroleum products ranging from light gasolines to fuel oils and including crudes and naphthenic acids gave values (at 20° C.) in the range 2.050-2.680. $\mathcal{E}$ varies with b.p; the highest val. was given by naphthenic acids (a polar material). Maxwell's relationship ($\mathcal{E} = n^2$) holds for refined light products from paraffinic crudes, but in the case of other oils there is divergence from this rule, indicated the presence of polar mol. In an attempt to correlate $\mathcal{E}$ with other properties of the materials examined a relationship was found between $\mathcal{E}$ and D.I., applicable to refined diesel fuels. This can be expressed as D.I. = 378.5 - 907.3 log $\mathcal{E}$ and was verified in the D.I. range 43-68 for mixtures of diesel fuels of asphaltic and paraffinic origin. It is considered that with a more sensitive test apparatus a quant. relationship could be detemined between $\mathcal{E}$ and characteristics such as the



CA

22

Evaluation of cracked gas. V. Th. Cerchez. *Mon. petrole roumain* 49, No. 1-2, 3(1948); cf. *C.A.* 42, 2749*f*.— In the thermal-cracking plants now existing in Rumania 916,034 tons of mazut and other heavy products were treated in 1946. This yielded 80,234 tons of gas, contg. on the av. 5.00% of C_2H_4, 14.4 of C_3H_6, and 4.82 of C_4H_8. The C_3H_6 and C_4H_8 converted to the corresponding alcs. would yield in tons about 6700 EtOH and 16,000 iso-PrOH, resp., or an equiv. quantity of Me_2CO.

Emma E. Crandal

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

CERCHEZ, V.

Distr: 4E3d

Lowering the interfacial tension of water and crude oil. V. Cerchez and G. Negoescu. *Acad. rep. populare Romîne, Studii cercetări chim.* 3, 209–24(1955)(French summary).—The surface tension at the water-crude oil interface, measured on a no. of crude oils, was found to vary notably as a function of their purity. Of several agents added (naphthenic acid solns., sulfonated castor oil, sulfonic acids, and Na sulfonates), the last two had the largest effect on the surface tension. Hexametaphosphate had a slight effect, and Na_2SO_4 had no effect at all. The presence of clay apparently did not affect the interfacial tension.

Gary Gerard

3
1

CERCHEZ, V.

RUMANIA/Chemical Technology - Chemical Products and Their Application. Treatment of natural gases and petroleum. Motor fuels. Lubricants. I-13

Abs Jour : Referat Zhur - Khimiya, No 4, 1957, 12920

Author : Cerchez V., Negoescu G.
Title : Investigation of Lowering of Surface Tension at the Water-Petroleum Interface.

Orig Pub : Reducerea tensiunii interfaciale apa-titei. Studii si cercetari chim., 1955, 3, No 3-4, 209-224 (Rumanian; Russian and French summaries)

Abstract : Measurements of surface tension at the water-petroleum interface have revealed that this quantity depends to a large extent on the purity of the petroleum. Experiments on incorporation of additions: naphthenic acids, sulfonic acids, Na-salts of sulfonic acids and sulfonated castor oil, have shown that sulfonic acids and their Na salts lower the surface tension to the greatest extent.

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CERCHEZ, V.

S

V Preparation of certain aromatic hydrocarbons and their separation. V. Cerchez (Petr. Res. Inst.). *Petrol şi Gaze* (Bucharest) 6, 197–[illegible], 210–21(1955).—Flow sheets are given for catalytic aromatization of naphthenes and paraffins to C_6H_6, toluene, and $C_6H_4Me_2$ at (*1*) 540–80° and 10–20 atm. with MoO_3 on Al_2O_3 as catalyst; (*2*) 430–80° and 35–62 atm. using as catalyst an unspecified mixt. contg. Pt. The 2 processes were compared and techniques evaluated for sepg. the individual products. Discussed in detail were azeotropic distn., several methods of extn. with selective solvents, and sepn. by adsorption. Gary Gerard

C11

MET

CERCHEZ, V. ; DEUTSCH, L.

Fluidiz ation of acid tars. p. 361. Petrol Si Gaze. Bucuresti. Vol. 6, No. 8, Aug. 1955.

SOURCE: East European Accessions List (EEAI), LC. Vol. 5, No. 3, March 1956.

CERCHEZ, V.

CERCHEZ, V. Radioactive isotopes in the petroleum industry. p. 506.

Vol. 6, no. 10, Oct. 1955
RUMANIAN-SOVIET friendship
Bucuresti, Rumania

So: Eastern European Accession Vol. 5 No. 4 April 1956

CERCHEZ, V.

RUMANIA/Analytical Chemistry. Analysis of Organic Substances. E-3

Abs Jour: Ref. Zhur.-Khimiya, 1958, No II, 35974.

Author : V. Cerchez, O. Popescu.
Inst : Not given.
Title : The Determination of Sulfo Acids in Presence of Sulfuric Acid. Application to the Analysis of Acid Asphalts.

Orig Pub: Studii si cercetari chim. Acad. RPR Fel. Cluj, 1956, 7, No 1-4, 155-165.

Abstract: Ba sulfonates are deposited along with $BaSO_4$ at the determination of H_2SO_4 (I) in solutions containing sulfo acids (II). To determine the actual content of I, the deposit of Ba-salts is dried for 1.5 hours at 110°, weighed and calcinated. In this case sulfonate is losing the organic residue and 1/2 of SO_2 and passes into $BaSO_4$. The difference in weight between dried and calcinated deposits per-

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Abs Jour: Ref. Zhur.-Khimiya, 1958, No II, 35974.

mits to compute the content of II (if its average molecular weight is known) and I. The average mol. weight of II for solar oil is equal 200 (determined empirically). When acid asphalts of different fractions of petroleum (kerosene, solar, oil) are analyzed, the measured weight of 2-5 g is extracted by a mixture of water (20-40 ml) and chloroform or nitrobenzene (30-50 ml) and the aqueous part, in which I and II are passing, is separated. The extraction by water is repeated and the general acidity, I and II are determined, as indicated above. The abs. error of determination is ± 0.4%.

CERCHEZ, V.

RUMANIA/Chemical Technology - Chemical Products and Their Application - Treatment of Natural Gases and Petroleum. Motor and Rocket Fuels. Lubricants. H-23

Abs Jour : Ref Zhur - Khimiya, No 3, 1958, 9266

Author : Cerchez V., Deutsch L.
Inst : -
Title : Storage of Naphthenic Acids in Steel Tanks.

Orig Pub : Petrol si gaze, 1956, 7, No 4, 195-199

Abstract : Laboratory experiments on storage of naphthenic acids (NA) in steel tanks, have shown that during 30 months the content of Fe in a sample of NA increased from 0.006% to 0.26%, on storage in a tank without anticorrosion lining and to 0.02% in a tank coated with two layers of bakelite. In view thereof the authors recommend to protect tanks for the storage of NA with two layers of bakelite. Laboratory experiments have shown that O_2 of the air causes oxidation of NA, promoting their darkening, and that

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Abs Jour : Ref Zhur - Khimiya, No 3, 1958, 9266

light accelerates catalytically this reaction; in the absence of air the light causes no appreciable alterations of the color of NA. Hence it is necessary to provide for a hermetic sealing of the tanks and to fill them to a maximum extent in order to decrease the contact of NA with the air.

Card 2/2

CERCHEZ, V.: BARTOI, A.

Study of the chemical composition of the fresh and used motor oils. Studii cerc chim 8 no.1:115-134 '60. (EEAI 9:8)

1. Institutul PETROCHIM, Ploiesti.
(Diesel engine) (Lubrication and lubricants)
(Chromatography)

CERCHEZ,V.; BARTOI, A.

A new method for the characterization of mazuts. Studii cerc chim 8 no.1:135-156 '60. (EEAI 9:8)

1. Institutul PETROCHIM, Poiesti.
(Mazut) (Chromatography)

CERCHEZ, V.Th.; VLADEANU, Al.

Separation of some aliphatic acids from naphtenic acids by complexing with urea. Petrol si gaze 13 no.10:452-458 O '62.

CERCHEZAN, D.

"Where the waters meet. P.21" AVATIA SPORTIVA, Vol. 4, no.2, Feb. 1953. Bucuresti, Rumania.

SO: Monthly List Of East European Accessions, L.C. Vol. 4, No. 11, Nov. 1953. Uncl.

ZSADON, Bela; CERECS, Arpad

Analysis of poppyhead extracts. Pt. 2. Magy kem folyoir 70 no. 2:49-51 F '64.

1. Eotvos Lorand Tudomanyegyetem Kemiai-Technologiai Tanszeke, Budapest.
2. "Magyar Kemiai Folyoirat" szerkeszto bizottsagi tagja (for Gerecs).

CEREMUSKIN, S., candidat in stiinte agricole.

About the land cadastre. Rev geodezie 6 no.4:67-71 '62.

CEREMUZYNSKI, Leszek

A clinical triad: adrenal insufficiency, hyperthyroidism and myocardial infarct. Pol. arch. med. wewnet. 34 no.2:231-236 '64.

1. Z IV Kliniki Chorob Wewnetrznych AM w WARSZAWIE; kierownik: prof.dr.med.Z. Askanas.

*

CEREMUŻYNSKI, Leszek

Theoretical principles in the use of a polarizing mixture (potassium, insulin, glucose) in coronary insufficiency. Pol. arch. med. wewnet. 34 no.3:323-330 '64.

1. Z IV Kliniki Chorob Wewnetrznych AM w Warszawie;kierownik: prof.dr.med.Z.Askanas.

CEREMUZYNSKI, Leszek; KRASKA, Tadeusz; SLUCKA, Cecylia

Preliminary clinical experiences with the use of a polarizing mixture (potassium, insulin, glucose) in myocardial infarct. Pol. arch. med. wewnet. 34 no.5:541-547 '64

1. Z IV Kliniki Chorob Wewnetrznych Akademii Medycznej w Warszawie (Kierownik: prof. dr. med. Z. Askanas).

CEREMUZYNSKI, Leszek

Some current views on the coronary vessels. Pol. tyg. lek. 20 no.6:229-231 8 F '65

1. Z IV Kliniki Chorob Wewnetrznych Akademii Medycznej w Warszawie (Kierownik: prof. dr. med. Z. Askanas).

CEREMUZYNSKI, Leszek

Hemodynamic problems of coronary circulation. Pol. tyg. lek. 20 no.15:539-541 12 Ap '65.

1. Z IV Kliniki Chrorb Wewnetrznych AM w Warszawie (Kierownik: prof. dr. med. Z. Askanas).

CERENSKA, E., dr.; PAULICKOVA, M.; SMYD, B., dr.

New buildings of social security institutes. Soc revue 7 no.6: 273-283 '61.

CERESNA, J.

"Preparation of Machine-Tractor Stations for Spring Work." p. 325,
(MECHANISACE ZEMEDELSTVI, Vol. 4, No. 17, Sept. 1954, Praha, Czechoslovakia)

SO: Monthly List of East European Accessions, (EEAL), LC, Vol. 4
No. 5, May 1955, Uncl.

Cerethell, Saule

Cerethell, Saulo. On the character of proof in Aristotle's syllogistic. [Trav. Univ. Tbilissi 24, 1-16 (1945). (Georgian, Russian summary)]

Source: Mathematical Reviews, 1948, Vol 9, No. 1

STOLYAROVA, Ye.L.; CHEREVATENKO, G.A.

Radiation protection near particle accelerators. Uskoriteli no. 4:111-126 '62. (MIRA 17:5)

CHEREVATENKO, G.A.; LARICHEV, A.V.

Scintillation spectrometer for studying the spectral angular distributions of electron bremsstrahlung. Vop. doz. i zashch. ot izluch. no.1:125-130 '62. (MIRA 16:3)

(Gamma-ray spectrometer) (Bremsstrahlung)
(Electrons)

ACCESSION NR: AT4021259 S/2892/63/000/002/0116/0124

AUTHOR: Cherevatenko, G. A.

TITLE: Ionization chamber for measurement of annihilation radiation intensity of electron accelerators

SOURCE: Voprosy* dozimetrii i zashchity* ot izlucheniy, no. 2, 1963, 116-124

TOPIC TAGS: ionization chamber, annihilation radiation, electron accelerator, γ radiation, dosimetric characteristic

ABSTRACT: In this paper, the author proposes a graphite ionization chamber with a front wall of variable thickness for the purpose of absolute measurements of annihilation radiation intensity of electron accelerators within a broad energy range. The author claims that absolute measurement of this intensity is necessary for the solution of a number of problems related to nuclear physics, technology, radiation dosimetry and radiation shielding. The ionization chamber sensitivity is defined by the energy portion of γ quanta which is consumed during the ionization process in a unit of the chamber's wall area to a depth of t in the presence of a normal beam incidence. According to the Bragg-Gray theory of walled ionization chambers, the sensitivity of a chamber S(t,E) is related to an intensity

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ACCESSION NR: AT4021259

of γ radiation of an energy E by the correlation

$$I(t,E)\cdot S(t,E) = \epsilon qR(Z,E) \qquad (1)$$

where I(t,E) is the radiation intensity, i.e., the energy carried by quanta of annihilation radiation through 1 cm^2 in a unit of time, at a normal to the surface, MeV/cm^2 sec; ϵ is the mean energy in the formation of one pair of ions in the chamber's air cavity. Based on this correlation and mathematical arguments, the author constructed a sensitivity curve for a graphite ionization chamber and illustrated his proof with a diagram showing the structure of such a chamber. In conclusion, the author expressed his deep gratitude to E. L. Stolyarova, P. A. Cherenkov, A. Ya. Belyakov, and V. V. Florov for their important remarks during the evaluation of results of this work, and also to V. G. Kuznetsov for his help in carrying out this work. Orig. art. has: 7 formulas, 3 figures, and 1 table.

ASSOCIATION: Moskovskiy inzhenerno-fizicheskiy institut (Moscow Physics and Engineering Institute)

SUBMITTED: 00 DATE ACQ: 06Apr64 ENCL: 00

SUB CODE: PH, NS NO REF SOV: 006 OTHER: 003

Card 2/2

S/796/62/000/003/004/019

AUTHORS: Larichev, A.V., and Cherevatenko, G.A.

TITLE: Investigation of the sensitivity of the single-crystal scintillation γ-spectrometer with an 80x80-mm NaI(Tl) crystal.

SOURCE: Moscow. Inzhenerno-fizicheskiy institut. Pribory i metody analiza izluchenly. no.3. 1962, 47-52.

TEXT: A difficulty encountered in the interpretation of the instrument spectra (amplitude distribution of the impulses) is attributed to the separate contributions of each spectral component (e.g., in a composite or continuous spectrum) at the spectrometer output, so that the observed amplitude distribution, N(E), is related to the true γray spectrum, f(E), by a Fredholm integral equation, the kernel of which is a function of the spectrometer sensitivity (cf. Berger, M., et al., NBS J. Res., v.56, no.6, 1956, 335). The individual basic characteristics of the spectrometer sensitivity are identified. In thick crystals (one or more free paths thick) the approximate calculation method (Maeder, D., et al., Helv. Phys. Acta, v.27, no.1, 1954) is not applicable and the Monte Carlo method requires laborious high-speed-computer work. Experimental investigation appears most practical. The work defined in the title employed a crystal and a photomultiplier housed in a Pb housing with a 300-mm long and 20-mm diam collimator. The impulses issuing from the photomultiplier, via a linear amplifier, passed into a 100-channel amplitude analyzer. Lead filters were used to minimize the effects of self-scattering within the

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source and other nearby objects. The γ-ray spectra of Hg^{203}, Au^{198}, Cs^{137}, Zn^{65}, and Na^{24} isotopes were measured. The energy resolution, as defined by the width of the peak at its midheight divided by the peak energy, was measured, and a linear variation of the resolution with the square root of the energy was found (cf. Koch, H., Foote, R., Nucleonics, v. 12, no. 3, 1954, 51). The photocontribution (ratio of the area underneath the total-absorption peak and the total area underneath the amplitude distribution) was measured; the test points lie slightly below the curve defined by Berger's semiempirical formula. A numerical matrix of the contribution due to Compton scattering of the γ-rays is computed by interpolation of the experimental spectra of 279, 411, 661, and 1120 kev γ-lines is shown (full page). Prior to interpolation all experimental continua were normalized for one impulse in the total-absorption peak and for a 1-kev energy interval. The validity of this matrix construction and the accuracy of an elaboration of spectra with the aid of this matrix remains to be verified by analyzing some real spectrum in the 40-to-1400 kev energy range. The results of one such analysis of the instrument spectrum of the γ-rays of a Co^{60} isotope (1170 and 1330 kev energies), in comparison with the summary continuum of both γ-lines as obtained according to the matrix, is graphically depicted, and the result is found to be favorable. There are 4 figures (counting the matrix) and 4 references (1 Russian-language Soviet, 2 English-language U.S., and 1 Swiss of undetermined language; probably English).

ASSOCIATION: None given.

Card 2/2

S/796/62/000/003/008/019

AUTHORS: Cherevatenko, G.A., Frolov, V.V.

TITLE: Calculation of a graphite ionization chamber for measurement of the intensity of bremsstrahlung in the 1- to 100-mev energy range.

SOURCE: Moscow. Inzhenerno-fizicheskiy institut. Pribory i metody analiza izlucheniy. no.3. 1962, 79-88.

TEXT: The paper expounds the calculation of the sensitivity of a thick-walled ionization chamber with graphite walls for γ-quantum energies of 1 to 100 mev, applicable in the measurement of flux intensities in synchrotron, betatron, and linear electron accelerators. From a knowledge of the sensitivity of the chamber for a given γ radiation and the ionization produced by that radiation in the gas contained within the chamber, the intensity of the impinging quanta can be readily determined. Basic premises: A plane system, consisting of a thick layer of graphite ($1.8\ g/cm^3$), contains an air-filled cavity at depth T. Compton scattering and pair formation are the predominant effects considered at the chosen energy level; the photoeffect is relegated to lower energy levels and is not considered. The effect of multiple scattering is briefly evaluated and is found to be small for a low-atomic-number substance such as graphite. The critical energy at which shower processes

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are probable within the walls is estimated to be 120 mev. Sensitivity calculation: The sensitivity of an ionization chamber, S(W), is defined as that share of the energy of the γ-quanta which is directly expended on the ionization in a unit volume of the chamber wall at the depth T when one γ-quantum per second impinges on 1 cm^2 of the frontal wall of the chamber. The calculation method is based primarily on Western references (Shuhl, C., J. Phys. radium, v. 17, no. 6 (suppl.), 1956, A97-A103; Flowers, B., et al., Roy. Phys. Soc., Proc., v. B65, 1952, 286-295; Lax, M., Phys. Rev., v. 72, 1947, 61-67) and V. V. Frolov's dissertation (MIFI //Moscow Engineering Physics Institute//, 1959). The basic term in S(W) is the function F(W), which characterizes the mean share of the energy of a γ-quantum that is directly expended on ionization upon a single collision of any kind, and which, in this instance, is divided into a Compton-scattering and a pair-formation term. Basic data for the first term are taken from the Shuhl reference, those for the second term from W. Heitler's formula and the Shuhl empirical straight-line approximation formula. The Compton-scattering cross-section appearing in the F(W) equation is expressed in accordance with the Klein-Nishina-Tamm concepts. The numerical results of the fairly cumbersome expression are tabulated and graphically plotted against energy for various values of T. The optimal sensitivity of a chamber for an unknown radiation spectrum is found to occur at one-half the energy of the upper boundary of the bremsstrahlen spectrum. Secondary processes: Consideration of secondary

Compton scattering is based on Shahl and Flowers concepts; experimental evidence indicates absence of observable changes in measured ionization. Shower processes, according to the Frolov dissertation, should not introduce a more than 5% correction in the energy range up to 100 mev. The accuracy of the method set forth here should be ±10% for 3-100 mev for direct γ-quantum flows of unknown spectral composition. There are 5 figures, 1 (unnumbered) table, and 10 references (2 Russian-language Soviet and 8 English-language, including 2 in Russian translation).

ASSOCIATION: None given.

S/796/62/000/003/019/019

AUTHORS: Larichev, A.V., Cherevatenko, G.A., Yakshin, V.V.

TITLE: On the sensitivity function of a scintillation spectrometer relative to γ-rays with a maximal energy of 5 mev.

SOURCE: Moscow. Inzhenerno-fizicheskiy institut. Pribory i metody analiza izlucheniy. no.3. 1962, 186-190.

TEXT: The experimental determination of the total sensitivity function of a Soviet-made scintillation spectrometer with an 80x80-mm NaI(Tl) crystal is described. The objective of the study is the quantitative determination of the energy dependence of the instrumental shape of the total-absorption peak and the continuous Compton distribution for a given energy interval. The crystal and the ФЭУ-1Б (FEU-1B) photoelectronic multiplier (PhM) were placed in a Pb housing with a 300-mm long and 20-mm diam collimator. The γ-ray source was placed on the collimator axis, at a distance of 75 cm from the crystal surface. Upon preamplification and linear amplification, the amplitude analysis was performed on a АИ-100-1 (AI-100-1) 100-channel amplitude analyzer. The sources employed were: Hg^{203} (0.279 mev); Au^{198} (0.411 mev); Cs^{137} (0.661 mev), Zn^{65} (1.14 mev); Na^{24} (2.76 mev) and a Po+Be source (4.45 mev). The energy dependence of the energy resolution (midheight width of total-absorption peak divided by the amplitude of the peak)

Card 1/2

On the sensitivity function of a scintillation spectrometer. S/796/62/000/003/019/019

is plotted; the curve concurs qualitatively with that of H.Koch et al. (Nucleonics, v.12, 1954, 51) and is quantitatively comparable to foreign data on crystals of similar dimensions. The energy dependence of the photoeffectiveness and of the photocontribution (ratio of the area underneath the total-absorption peak to the total area underneath the amplitude distribution) is also plotted and compared to the values computed according to the semiempirical formula of M.Berger et al (NBS J.Res., v.56, 1955, 355). The Compton contribution for γ-rays with a maximal energy of 5 mev is shown in matrix form normalized to one impulse registered in the total-absorption peak for 5-mev γ-rays and a 1-kev energy interval. To verify the correctness of the matrix qualitatively, the amplitude spectrum of the γ-rays of equilibrium radium was taken and elaborated to obtain the total sensitivity function. The radium spectrum, elaborated by means of the inverse matrix, is shown in the form of a histogram. Agreement between histogram and the instrumental spectrum is reasonably good (strictly speaking, the matrix of the sensitivity function is intended for the processing of continuous spectra). Thus, all necessary elements of the total sensitivity function of a spectrometer for the consideration of the equipment effects in the instrumental spectra are obtained for a maximum energy of 5 mev. There are 4 figures and 3 references (1 Russian-language Soviet - the authors' paper on pp.47-52 of the present compendium, Abstract S/796/62/000/003/004/019 - and the 2 English-language references cited in the text of the present abstract.

Card 2/2 ASSOCIATION: None given.

S/759/62/000/004/014/016
D207/D308

AUTHORS: Stolyarova, Ye. L. and Cherevatenko, G. A.

TITLE: Some problems of radiation protection near accelerators

SOURCE: Moscow. Inzhenerno-fizicheskiy institut. Uskoriteli, no. 4, 1962, 111-126

TEXT: A general review of shielding requirements is followed by a discussion of the specific case of accelerators producing electrons with energies up to 100 MeV. Shielding from the gamma-ray bremsstrahlung is considered. Calculations show that concrete shields up to 200 cm thick are required at 3.5 m from the target subjected to a 100 MeV beam; for photoneutrons shielding only theoretical formulas are given. The authors describe also shielding of American proton synchrocyclotrons (up to 400 MeV) by means of concrete or composite blocks. The article is based mainly on Western literature published in 1946 - 1959. There are 8 figures, 3 tables and 9 references.

Card 1/1

CEREY, KAROL
SURNAME, Given Names

Country: Czechoslovakia

(1)

Academic Degrees:

Affiliation: Chemical Institute, SAV /Slovenska akademie ved; Slovak Acade of Sciences/ (Chemicky ustav SAV), Bratislava.

Source: Bratislava, Nasa Veda, Vol VIII, No 4, 1961, pages 233-237.

Data: "Study of the Raising of Laboratory Animals In Czechoslovakia."

Authors: BALONOVA, Tatiana, graduate biologists;
CEREY, Karol, graduate veterinarian

GPO 981643

L 13232-66 EWT(m)/EWP(j)/EWA(c) RM

ACC NR: AP6006032 SOURCE CODE: CZ/0053/65/014/004/0289/0290

AUTHOR: Cerey, K.; Elis, J.; Raskova, H.

ORG: Institute of Pharmacology CSAV, Bratislava (Farmakologicky ustav CSAV)

TITLE: Occurrence of malformations following 6-azacytidine in mice [This paper was presented during the Twelfth Pharmacologic Days, Smolenice, 27 Jan 65.]

SOURCE: Ceskoslovenska fysiologie, v. 14, no. 4, 1965, 289-290

TOPIC TAGS: mouse, biologic reproduction, drug effect, organic azo compound

ABSTRACT: 6-Azacytidine 100 or 200 mg /Kg intraperitoneally to pregnant mice repeated each pregnancy was each time more teratogenic, starting with the third or fourth pregnancy. Increased sensitivity was even transferred to the second generation of mice; the main effect was tail deformation. [JPRS]

SUB CODE: 06 / SUBM DATE: none / OTH REF: 003

Card 1/1

L 13227-66 EWP(j)/EWA(c) RM

ACC NR: AP6006038 SOURCE CODE: CZ/0053/65/014/004/0292/0292

AUTHOR: Elis, J.; Cerey, K.; Halova, O.; Rybova, B.; Sechser, T.

ORG: Institute of Pharmacology, CSAV, Prague (Farmakologicky ustav CSAV)

TITLE: Effect of 6-azacytidine on pregnancy in mice [This paper was presented during the Twelfth Pharmacologic Days, Smolenice, 27 Jan 65.]

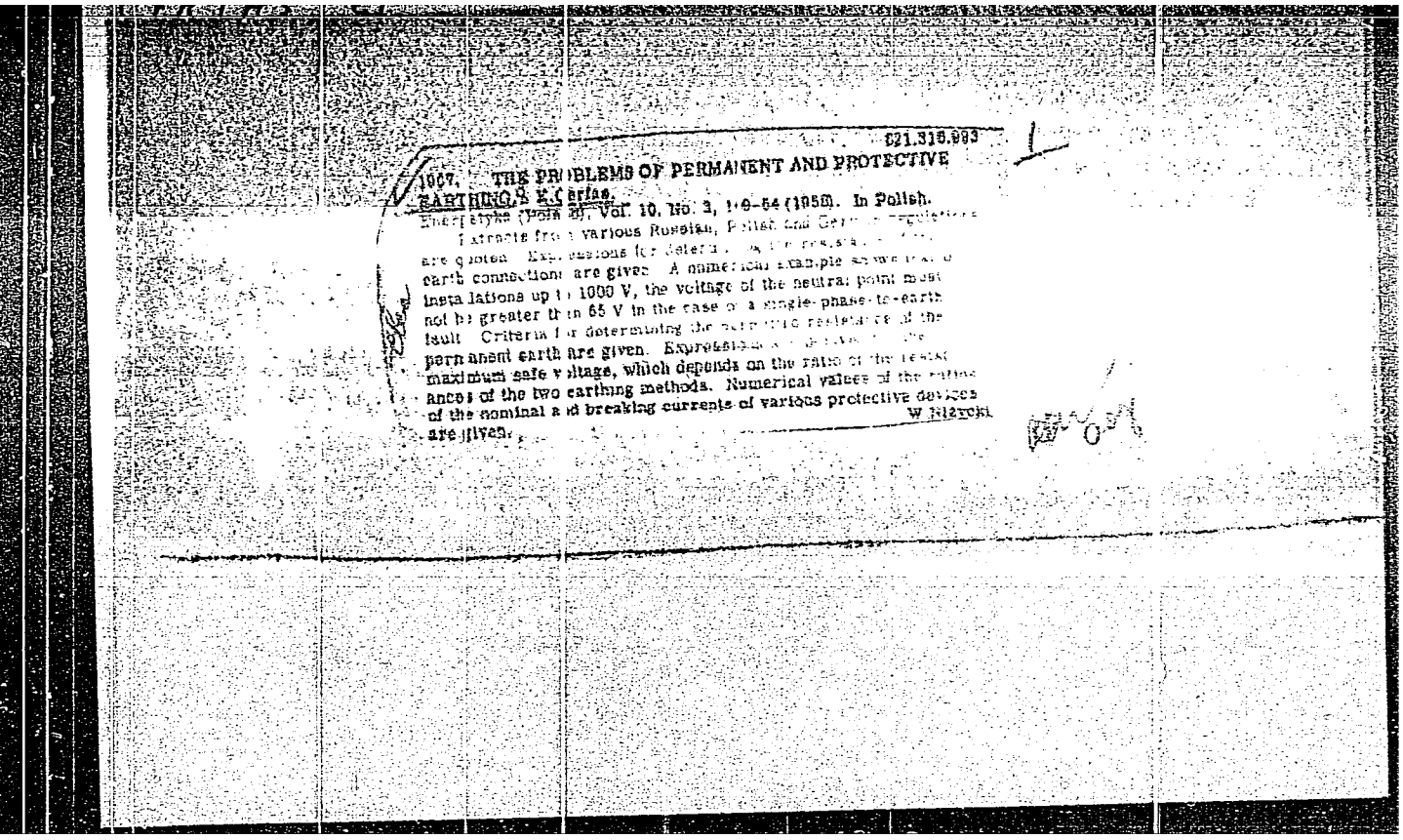
SOURCE: Ceskoslovenska fysiologie, v. 14, no. 4, 1965, 292

TOPIC TAGS: mouse, biologic reproduction, drug effect, pharmacology, heterocyclic base compound, organic nitrogen compound

ABSTRACT: Administration of 2 mg /Kg i.v. of 6-azacytidine to pregnant mice interfered with trophoblast, thus causing resorption of 88% of the embryos. Data on the dosage, times and intensity of effect are given. [JPRS]

SUB CODE: 06 / SUBM DATE: none / ORIG REF: 001 / OTH REF: 001

Card 1/1



621.316.993

1007. THE PROBLEMS OF PERMANENT AND PROTECTIVE EARTHING. K. Cerlak.

Electrotechnika (Poland), Vol. 10, No. 3, pp. 50-54 (1958). In Polish.

Extracts from various Russian, Polish and Ger[illegible] regulations are quoted. Expressions for determi[illegible] earth connections are given. A numerical example [illegible] installations up to 1000 V, the voltage of the neutral point must not be greater than 65 V in the case of a single-phase-to-earth fault. Criteria for determining the [illegible] permanent earth are given. Expressions [illegible] maximum safe voltage, which depends on the ratio of the resistances of the two earthing methods. Numerical values of the [illegible] of the nominal and breaking currents of various protective devices are given.

W. Nizecki

CERGE, Oskar

CERGE, Oskar, major, mr.

The use of wild-growing plants in military nutrition. Voj. san. pregl., Beogr. 11 r.o.3-4:125-128 Mar-Apr 54.

1. HE odred I Vojne Oblasti
(PLANTS
*wild plants, nutritive value)
(NUTRITION
*nutritive value of wild plants)

CERGE, Oskar, mr.

The use of little known Yugoslav drugs in phytotherapy. Arh. farm., 4 no.2-3:77-79 Apr.-June 54.
(PLANTS
medicinal)

CERGE, O.

The peroxide number and determining the quality (freshness and preservation properties) of fats. p. 196
(GLASNIK, Vol. 4, No. 3, May/June 1957)

SO: Monthly List of East European Accessions (EEAL) LC Vol. 6, No. 12, Dec. 1957
Uncl.

CERGE, O.
SURNAME (in caps); Given Names

Country: Yugoslavia

Academic Degrees: not given

Affiliation: not given

Source: Belgrade, Arhiv za Farmaciju, Nr 6, 1960, p. 507.

Data: Book review: "Complexons in Chemical Analysis" by R. Prishibil.

OERGE, O.

SURNAME (in caps); Given Names

Country: Yugoslavia

Academic Degrees: not given

Affiliation: not given

Source: Belgrade, Arhiv za Farmaciju, Nr 6, 1960, pp 514-516.

Data: News in brief: "Determination of Occult Blood in Stool during Regular Diet", "Use of Dihydroxiacetone", "Sterilization by Irradiation", "Combination of Aspirin with Other Drugs", "Analysis of Lard [Adeps Suillus] Intended for Pharmaceutical Use", "New Oral Antidiabetic", and "The American-Type Pharmacy [Drugstore] in Zagreb".

CERGE, O.
SURNAME (in caps); Given Names

Country: Yugoslavia

Academic Degrees: /not given/

Affiliation: /not given/

Source: Belgrade, Arhiv za Farmaciju, No 2, 1961, pp 81-83.

Data: "The Role of the Arhiv za Farmaciju (Archive for Pharmacy) in Informing Our Professional Public."

114

CERGOL, Stojan

Nonspecific diseases of thoracic organs discovered in fluorographic campaign in the district of Trbovlje at the end of 1953. Zdrav. vest., Ljubljana 23 no.9-10:238-241 1954.

1. Bolnisnica za tuberkulozo Novo Celje, ravnatelj dr. Ivan Kopac.
(RESPIRATORY TRACT, dis.
diag., fluorography during mass survey of pulm. tuberc. in Yugosl.)
(HEART DISEASE, diag.
fluorography, during mass survey of pulm. tuberc. in Yugosl.)

MATJASIC, M.; JUNG, M.; MOZETIC, M.; CERGOLJ, B.; SMERDEL S.

Isolation, biological characteristics and immunological identification of adenoviruses in 1963. Zdrav. vestn. 33 no.10: 320-326 '64

1. Zavod SRS za zdravstveno varstvo, virusni laboratori , Ljubljana (Ravnatelj:doc. dr. Sasa Cvahte).

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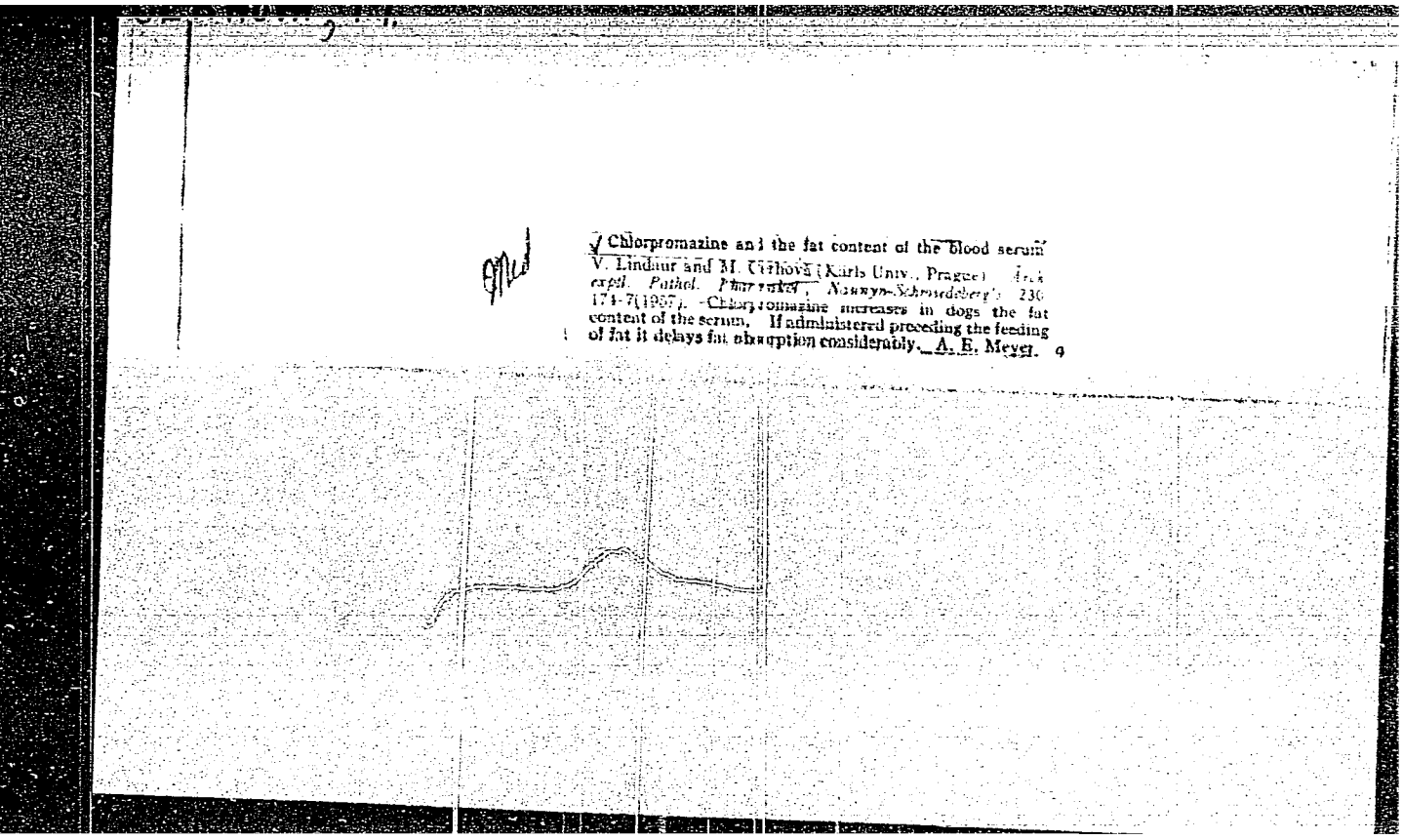
V. Lindner and M. Urbová (Karls Univ., Prague). *Arch. exptl. Pathol. Pharmakol.*, Naunyn-Schmiedeberg's 230: 174-7(1957). Chlorpromazine increases in dogs the fat content of the serum. If administered preceding the feeding of fat it delays fat absorption considerably. A. E. Meyer. 9



VLK, J.; CERHOVA, M.

Effect of low temperatures on the effect of acetylcholine on isolated heart in frog. Cesk. fysiol. 7 no.3:244-245 May 58.

1. Fysiologicky ustav lekarske fakulty U. K. Plzen.
(HEART, eff. of drugs on,
acetylcholine on isolated heart in frog, eff. of cold on reactivity (Cz))
(ACETYLCHOLINE, effects,
on heart, isolated in frog, eff. of cold on reactivity (Cz))
(COLD, eff.
on isolated frog heart reactivity to acetylcholine (Cz))

SAMAN, K.; CERHOVA, M.; SIDLOVA, A.

Serotonin in patients with glaucoma. Cesk. ofth. 16 no.3/4:181-187 My '60

1. Ocni klinika lekarske fakulty KU pobocka v Plzni, prednosta prof. dr. R. Knobloch Interni klinika lekarske fakulty KU pobocka v Plani, prednosta prof. dr. K. Bobek.
(GLAUCOMA blood)
(SEROTONIN blood)

SAMAN, K.; CERHOVA, M.; SIDLOVA, A.

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1. Ocni klinika lekarske fakulty KU, pobocka v Plzni, prednosta prof.dr. R.Knobloch. Interni klinika lekarske fakulty KU, pobocka v Plzni, prednosta prof.dr. K. Bobek.
(TRIGEMINAL NERVE physiol)
(AQUEOUS HUMOR chemistry)

BAUDIS, P.; VANA, J.; CERHOVA, M.; SIDLOVA, A.

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1. Psychiatricka a interni klinika KU v Pizni.
(SEROTONIN blood) (SCHIZOPHRENIA blood)

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1. Institute of Physiology, Medical Faculty of Charles University, Plzen.

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(SEROTONIN blood) HISTAMINE blood)

CERHOVA, M.; SAMAN, K.

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(SEROTONIN) (IRIS) (AQUEOUS HUMOR)

RYCHLIK, I.; DANCHEVA, K.I.; CERHOVA, M.

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1. Institute of Organic Chemistry and Biochemistry of the Czechoslovak Academy of Sciences, Prague. Submitted May 8, 1964.

CERIBASHI, I.

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Protecting forests in the light of enforcing the Law on Forests. p. 209.

NARODNI SUMAR. (Drustvo sumarskih inzenjera i tehnicara Bosne i Hercegovine) Sarajevo, Yugoslavia. Vol. 12, no. 4/6, Apr./June 1958.

Monthly List of East European Accessions (EEAI) LC Vol. 9, no. 2, Feb. 1960.

Uncl.

CERIC, S.

Understanding the importance of good management helps further development of our forestry. p. 7.

NARODNI SUMAR. (Drustvo sumarskih inzenjera i tehnicara Bosne i Hercegovine) Sarajevo, Yugoslavia. Vol. 13, no. 1/4, 1959.

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1. Interna klinika Medicinskog fakultata u Sarajevu -- III odjeljenje (Sef: prof. dr Ibro Brkic).

(EDEMA) (DIURETICS)